Is Diastolic Heart Failure Synonymous With Heart Failure With Preserved Ejection Fraction?

In his excellent Editorial Comment, Dr. Zile states that “heart failure with a preserved ejection fraction” and “diastolic heart failure” are synonymous (1). Respectfully, I must disagree. Not all patients with diastolic heart failure have left ventricular hypertrophy. Therefore, the general applicability of the study cited supporting the equivalency of the two terms might be limited because all patients in that study had echocardiographic evidence for left ventricular hypertrophy, and diastolic dysfunction is generally accepted to precede hypertrophy. In our early experience about one-third of patients with heart failure with a preserved ejection fraction had explanations for the signs and symptoms of failure other than diastolic dysfunction, predominately right heart failure due to pulmonary disease and regurgitant valvular heart disease (2). The nonspecific nature of the symptoms of heart failure and iatrogenic volume overload were also noted. It is unclear to what extent stricter diagnostic criteria for heart failure would affect these findings, and I believe that our initial criteria would still lead most clinicians to the diagnosis of heart failure. Furthermore, a patient with heart failure due to chronic, severe mitral regurgitation with an ejection fraction of 40% or even 50% that is predominately systolic is not diastolic heart failure. Therefore, I believe it is best to conclude that patients with “diastolic heart failure” form a subgroup of patients with “heart failure with a preserved ejection fraction.”

Until a uniformly accepted and therapeutically meaningful measure of diastolic dysfunction is defined, diastolic heart failure is in many ways a diagnosis of exclusion. The value of initially using the term “heart failure with preserved, or normal, ejection fraction” underscores the need to define left ventricular function in virtually all patients with heart failure (3) as well as the need to carefully eliminate other cardiac and noncardiac possibilities from the patient’s signs and symptoms. After eliminating other possibilities, I agree that the term “diastolic heart failure” seems most appropriate, and I hope, as Dr. Zile does, that accepting the term promotes the investigative efforts that are long overdue for these patients.

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doi:10.1016/S0735-1097(03)00997-5

REFERENCES


REPLY

One of the first, if not the first, study to use the term “diastolic heart failure” was by Dr. Kessler in 1988 (1). His report was truly innovative and showed remarkable insight into a difficult clinical problem. I enthusiastically agree with Dr. Kessler’s point of view and I am grateful to receive his support. In his letter to the editor of the JACC, he raises three important issues: 1) some patients with diastolic heart failure do not have left ventricular (LV) hypertrophy; 2) the diagnosis of diastolic heart failure should exclude patients with noncardiac (such as pulmonary disease) and other cardiac (such as mitral stenosis, regurgitant valve disease) causes of heart failure; and 3) left ventricular (LV) function must be measured in every patient with heart failure.

In the study that Dr. Kessler refers to in his letter (2), only about one-third of the patients had LV hypertrophy defined as LV mass ≥125 g/m². However, all patients had concentric hypertrophic remodeling characterized by a decreased LV end diastolic volume/mass ratio or LV end diastolic dimension/wall thickness ratio or an increased relative wall thickness. I believe that a majority of patients with diastolic heart failure in fact have either concentric remodeling or some other evidence of myocardial or cardiac structural alterations such as an enlarged left atrium. With or without concentric remodeling, if a patient truly has objective signs and symptoms of heart failure and noncardiac and other cardiac causes have been ruled out, then heart failure with a normal ejection fraction (EF) is caused by diastolic dysfunction and the appellation “diastolic heart failure” should be applied.

Dr. Kessler correctly points out that in patients with primary right heart failure (caused by chronic lung disease, pulmonic stenosis, tricuspid regurgitation) or mitral stenosis or left-sided regurgitant valvular disease, this can result in heart failure with a normal EF. I am grateful that Dr. Kessler emphasized this point because our previous publications (2,3) did not make it explicitly clear that we had in fact excluded patients with noncardiac and other cardiac causes of heart failure in this study patient cohort.